



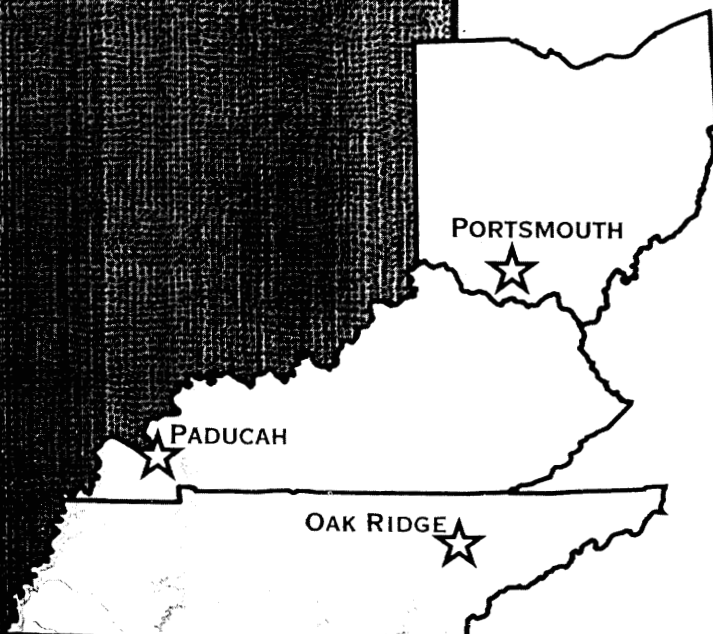
UNCLASSIFIED

BJC/PAD-552

ENVIRONMENTAL MANAGEMENT  
& ENRICHMENT FACILITIES  
MANAGEMENT AND INTEGRATION CONTRACT

PDOC Received  
07-10-03 Ky  
RECORD COPY

**Final Inventory/Characterization  
Report for the C-331-20  
Department of Energy  
Material Storage Area at the  
Paducah Gaseous Diffusion Plant,  
Paducah, Kentucky**



MANAGED BY  
BECHTEL JACOBS COMPANY LLC  
FOR THE UNITED STATES  
DEPARTMENT OF ENERGY

Bm005-2.019-001039-1  
SUBCONTRACT NO. ITEM NO. EST. COUNT

This document has received the appropriate reviews  
for release to the public.

UNCLASSIFIED

Form

**Bechtel Jacobs Company LLC/DOE Paducah Site  
Classification Office (CO)/Technical Information Office (TIO)  
and Operations Security (OPSEC)  
Release Form**

**To Be Completed by Person Requesting Release  
(Required to be completed prior to submittal to CO/TIO/OPSEC)**

Date 6/24/03 Date Release is Required 6/24/03  
Person Requesting Release T.J. ELLINGTON Phone Number 441-5290  
Mailing Address C-412-T-04  
Organization WESKEM, LLC  
Document Number BJC/PAD-552 Number of Pages 15  
Assession Number (DMC only) NA  
Document Title/Date Final Inventory/Characterization Report for DMSAC-331-20  
AT PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KY  
Author ELLINGTON Corporate Author WESKEM, LLC  
**Media** (Check all that apply)  
☐ Paper ☐ Photo ☐ Diskette ☐ Drawing ☐ Video ☐ CD ☒ Report/Letter ☐ Other \_\_\_\_\_  
Project Subcontract/Task Order WESKEM/DMSA  
Requestor/Purpose of Release ELLINGTON/BJC-DOE-STATE  
*Document Compilation Scanning Proj #130014 Task 4 of DOE 7/16/03*  
**DO NOT WRITE BELOW THIS LINE - CO/TIO/DC/OPSEC USE ONLY**

**Classified** ☐ Yes ☒ No **UCNI** ☐ Yes ☒ No  
**ECI** ☐ Yes ☒ No **OUO** ☐ Yes ☒ No **OPSEC** ☐ Yes ☒ No

**Type of Release (Check One)**

☒ Public Release ☐ Internal Release Only ☐ Limited Release

**Reason (Check all that apply)**

☐ Circumvention of Statute ☐ Statutory Exemption ☐ Commercial/Proprietary  
☐ Personal Privacy ☐ Privileged Information

Other/Comments \_\_\_\_\_

DC CW Walen Date 6-24-03

TIO CW Walen Date 6-24-03

Reviewing Official \_\_\_\_\_ Date \_\_\_\_\_

OPSEC CW Walen Date 6-24-03

**Final Inventory/Characterization Report for the C-331-20  
Department of Energy Material Storage Area (DMSA)  
at the Paducah Gaseous Diffusion Plant,  
Paducah, Kentucky**

Date Issued – June 24,2003

Prepared by  
WESKEM, LLC  
Under subcontract 23900-BA-RMOO5F  
Prepared for the  
US Department of Energy  
Office of Environmental Management

BECHTEL JACOBS COMPANY LLC  
managing the  
Environmental Management Activities at the  
East Tennessee Technology Park  
Oak Ridge Y-12 Plant      Oak Ridge National Laboratory  
Paducah Gaseous Diffusion Plant      Portsmouth Gaseous Diffusion Plant  
Under contract DE-AC05-03OR22980  
for the  
U.S. DEPARTMENT OF ENERGY

## CONTENTS

ACRONYMS/ABBREVIATIONS .....	v
EXECUTIVE SUMMARY .....	vii
PHOTOGRAPHS	
DMSA C-331-20ZONE MAP	
INVENTORY AND CHARACTERIZATION REPORTS	
DMSA C-331-20INVENTORY	
MATERIALS TRANSFERRED	



## ACRONYMS/ABBREVIATIONS

ACM	Asbestos Containing Material
BJC	Bechtel Jacobs Company
Cm <sup>2</sup>	Square Centimeter
DMSA	Department of Energy Material Storage Area
Dpm	Disintegrations per Minute
Fiss	Fissile Material
Ft <sup>2</sup>	Square Feet
Ft <sup>3</sup>	Cubic Feet
Gen Date	Date Request <b>for</b> Disposal form is written
HP	Health Physics
IH	Industrial Hygiene
LLW	Low Level Waste
NA	Not Applicable
NCS	Nuclear Criticality Safety
ND	Newly Discovered
NG	Newly Generated
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limits
RCRA	Resource Conservation and Recovery Act
RCRA Mixed	Hazardous and Radioactive
RECY	Recycled
RFD	Request for Disposal
SWMU	Solid Waste Management Unit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TSCA Mixed	PCB and Radioactive
USEC	United States Enrichment Corporation

## EXECUTIVE SUMMARY

Department of Energy Material Storage Area (DMSA) C-331-20 is located on the ground floor of the C-331 process building at columns DD27-28/EE27-28. The area encompasses approximately 400 square feet (ft<sup>2</sup>). This DMSA is also identified as Solid Waste Management Unit (SWMU) #252. This area has been used for years as a storage area for a large piece of plastic wrapped equipment. Implementation of the characterization program occurred in September 2002. Removal of the plastic revealed a large wooden cart supporting a metal desk. The volume of the waste material was estimated to be 195 cubic feet (ft<sup>3</sup>) with an approximate weight of 400 pounds (lbs). In October 2002, this material was shrink wrapped and transferred to DMSA C-337-37 which is located in the C-337 process building. This transfer was directed by Bechtel Jacobs Company (BJC) due to projected United States Enrichment Corporation (USEC) restrictions related to work activities in the C-331 facility. The material was transferred subsequent to completion of all required documentation: Paducah DMSA Transfer Forms, DMSA Nuclear Criticality Safety (NCS) Characterization Forms, Request for Disposal (RFD) Forms and Health Physics Radiological Survey Forms. This DMSA is now empty; however, copies of the documentation required for characterization and transfer of material are included in this report. DMSA C-331-20 is presently classified as a Phase 3 DMSA since the material has been characterized and classified as NCS exempt and the DMSA is now empty. Photographs were taken of the DMSA during the characterization program. Several are included in this report.

### RCRA

There were no Resource Conservation Recovery Act (RCRA) hazardous wastes identified in DMSA C-331-20.

### TSCA/PCB/ACM

There were no Toxic Substance Control Act (TSCA) polychlorinated biphenyl (PCB) wastes identified in this DMSA. Also, there were no asbestos containing materials (ACM).

### LLW

The wooden cart and metal desk were classified as low level waste (LLW). This material was transferred to DMSA C-337-37 leaving DMSA C-331-20 empty.

### NCS

There were no Nuclear Criticality Safety (NCS) concerns or wastes identified in the DMSA. The waste was classified as NCS exempt prior to being transferred.

### IH

A comprehensive Industrial Hygiene Assessment was completed for DMSA C-331-20. Per WESKEM procedure W-207-PWOS, the Exposure Risk Rating for this DMSA indicated, "No BZ (Breathing Zone) monitoring is required".

## HP

The Health Physics (HP) surveys include smears, direct readings and air samples. Air samples are normally taken only in contamination areas and/or when opening containers with unknown contents. The highest total alpha reading from the radiological surveys was 984 disintegrations per minute(dpm) per 100 square centimeters (cm<sup>2</sup>). The highest total beta/gamma reading was 210,730 dpm/100 cm<sup>2</sup>. Both readings were from wooden planks on the cart.

## SAFETY

There were no safety related events during the characterization program. Pre-job briefings were conducted with all entry and support personnel to ensure that individual responsibilities were understood. A safety officer was in attendance during all phases of work to evaluate conditions and provide safety related input to workers. All workers had stop work authority to ensure unusual or unexpected events were evaluated before work was allowed to proceed.

Photographs

DMSA C-331-20 Large Wooden Cart with Metal Desk





# DMSA C-331-20 Shrink-Wrapped Material in DMSA





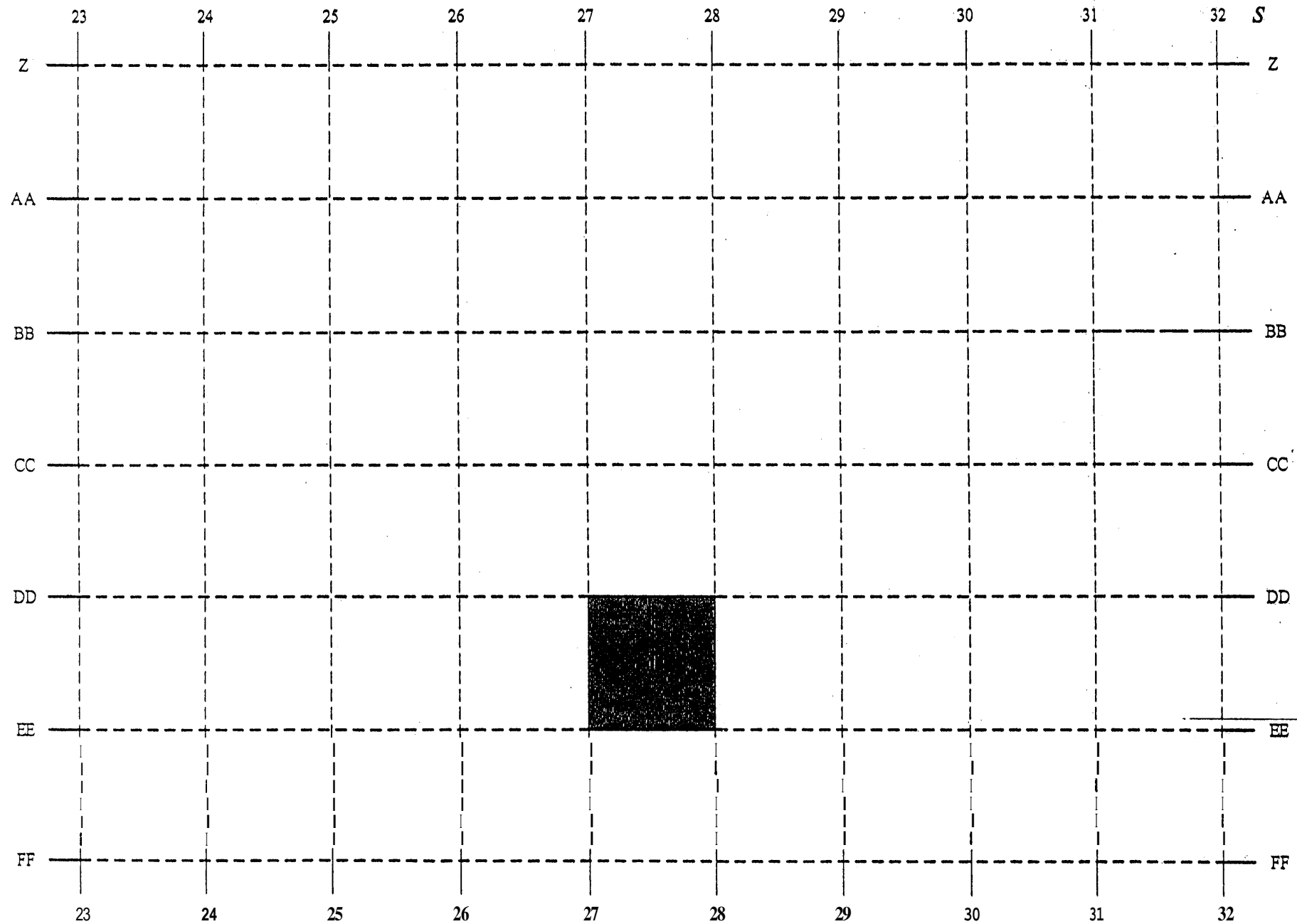
**DMSA C-331-20 Empty DMSA Following Transfer of Material**



DMSA C-331-20 Zone  
Map



# DMSA 331-20



Inventory and  
Characterization Reports

# Initial Inventory And Characterization Report

<i>Curr. Zone</i>	<i>Item ID</i>	<i>Barcode #</i>	<i>Description</i>	<i>Vol. ft3</i>	<i>TSCA Mix</i>	<i>RCRA Non</i>	<i>RCRA Mix</i>	<i>LLW</i>	<i>ACM</i>	<i>Fiss</i>	<i>Solid Waste</i>	<i>Recy</i>	<i>Gen Date</i>	<i>Transferred To</i>
<b>C-331-20</b>														
ZONE 1	113743-01	DMSA0217677	WOODEN CART WITH METAL DESK	195	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/19/2002	C-337-37
<b>Summary for C-331-20</b>				<b>( 1 RFD)</b>										
<b>Grand Total</b>				<b>( 1 RFD)</b>										
				<u>195</u> <b>Total Ft3</b>										

## *DMSA 331-20 Current Inventory*

Curr.				Vol.	TSCA	RCRA	RCRA			Solid	Gen.		
Zone	Item ID	Barcode #	Description	ft3	Mix	Non	Mix	LLW	ACM	Fiss	Waste. Recy	Date	Transferred From
Summary for C-331-20				(0 RFDs)		0 Ft3							
Grand Total				(0 RFDs)		0 Ft3							

DMSA C-331-20  
Inventory

Description	Original RFD #	Material Classification	Location	Barcode	# Items	Estimated Volume (ft3)	Estimated Weight (lbs)	RCRA Newly Generated Waste	RCRA Newly Discovered Waste
Wooden Cart with Metal Desk	113743	LLW	C-337-37	DMSA0217677	1	195	400	NA	NA

*Subtotal*  
*Estimated*  
*Volume*  
 795

*Subtotal*  
*Estimated*  
*Weight*  
 400



Description	Original RFD #	Material Classification	# Items	Estimated Volume (ft <sup>3</sup> )	Estimated Weight (lbs)	Transferred to
Wooden Cart with Metal Desk	113743	LLW	1	195	400	c-337-37

**Subtotal  
Estimated  
Volume  
195**

**Subtotal  
Estimated  
Weight  
400**



**COPY**

Requester Name: Greg Jones Organization: Westkem Signature: [Signature] Date: 10/10/02

Appropriate Health Physics Survey(s) must occur prior to relocating the material(s). Attach copy to this form.

Receiver Name: Greg Jones Organization: Westkem Signature: [Signature] Date: 10/10/02

BJC DMSA Field Superintendent Name: Paul E. King Signature: [Signature] Date: 10/10/02

BJC DMSA Deputy Project Manager Name: Rocky Tooley Signature: [Signature] Date: 10-14-02

DOE Approval Name: Craig A. Cochran Signature: [Signature] Date: 10/15/02

USEC Notification #1 Name: Si. Courtney Signature: [Signature] Date: 10-23-02

USEC Notification #2 Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(if needed)

Task Complete: [Signature] 10-29-02 441-5368  
Signature Date Phone

**COPY**

(PA-3002B - Rev. 2 - O M 2 - Page 2 of 2)

**UNCLASSIFIED**

**UNCLASSIFIED**